

ABSTRACT

A method for entrapping migratory antigen presenting cells (APCs) and particularly Langerhans cells (LCs,) *in vivo* is provided. The method entails creating an artificial gradient of APC-attracting chemotactic factor in the homing path of APCs *in vivo*. Also provided is a composition for entrapping APCs and particularly, migratory LCs. In addition, a method for loading APCs *in situ* with antigen is provided. The method comprises entrapping APCs *in vivo* and subsequently loading the APCs *in situ* with antigen. Correspondingly, a composition for loading APCs *in situ* is also provided. Further provided is a method for stimulating the migration of entrapped APCs to draining lymph nodes. The ability to stimulate the migration of entrapped APCs to draining lymph nodes is useful, *inter alia*, for regulating an immune response in a subject. In addition, an *in situ* APC-based vaccine is provided which does not require any time-consuming, costly *ex vivo* manipulations.